



CPL

Ness Heatshrink

—
**HEAT SHRINKABLE
PLASTIC SLEEVINGS AND
MOULDINGS**





HIGH QUALITY PRODUCTS WITH SERVICE TO MATCH

Based near Pontypridd, South Wales, Ness Heatshrink is part of CPL Industries.

With the resources of CPL Industries, the UK's largest manufacturer and distributor of solid fuels, Ness has access to technology and testing facilities few organisations are willing or able to provide.

The Ness Heatshrink activity is accredited to the internationally recognised Quality Management System which complies with the requirements of BS EN ISO 9002:2000, for the stocking of heat shrinkable components and ancillaries including sleeveings and mouldings.

As well as supplying quality products, we maintain a close liaison with our customers, building long standing partnerships that allow us to work hand in hand to provide not only the best product for the application, but also one that is financially competitive for the customer.

We aim to maintain a comprehensive stock of heatshrink sleeveings and mouldings for a wide variety of applications. So whether your requirement is for a high temperature use, electrical insulation, protection against moisture, abrasion or the most hostile of environments, or simply for an aesthetic finish, we have the material for the job.

Our prompt despatch procedures, using the best of delivery services, both for home and abroad, ensures despatch of in-stock materials on the day of order receipt. Home customers are given the choice of different levels of delivery service, from normal to next day for their 'just in time' needs.

Ness Heatshrink staff are committed to a Company policy of offering the highest standards in product quality and service to satisfy our customers' needs, and have been trained in giving advice on the properties and uses of a wide range of heatshrink sleeveings and mouldings, and to be capable of answering technical queries whenever they may arise.

Thin Wall Polyolefin Sleeveings

Code	Shrink Ratio	Shrink Temp.	Operating Temp.	Internal Dia. Min./Max	Page
NBRE	2:1	>120°C	-55°C to +135°C	1.2/102mm	4
NBRE3	3:1	>120°C	-55°C to +135°C	1.5/39mm	5
NBRE-B1	2:1	>120°C	-55°C to +135°C	1.6/51mm	6
NSG	2:1	>120°C	-55°C to +125°C	1.2/102mm	7
NVF	2:1	>100°C	-55°C to +135°C	1.2/102mm	8

PVC Sleeveing

NTRV	2:1	160°C	-30°C to + 105°C	2.4/102mm	9
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High Temperature and Specialist Sleeveings

NTRK	2:1	>175°C	-55°C to +175°C	1.2/25.4mm	10
NTR	4:1	>350°C	-65°C to +260°C	2.0/32mm	11
NDR	2:1	>150°C	-75°C to +130/150°C	3.2/51mm	12
NVTN	2:1	>175°C	-40°C to +200°C	3.2/51mm	13

Dual/Medium Wall Polyolefin Sleeveings

NDW	3:1 and 4:1	>125°C	-55°C to +80°C	3.0/52mm	14
NMW/NMWA	Up to 3:1	>125°C	-50°C to +125°C	12/230mm	15

Mouldings

NEC	Over 2:1	>135°C	-50°C to +105°C	10/100mm	16
NAC	Over 2:1	>135°C	-55°C to +70°C	86/112mm	17
NXM	Over 2:1	>135°C	-50°C to +80°C	21.6/50.8mm	18

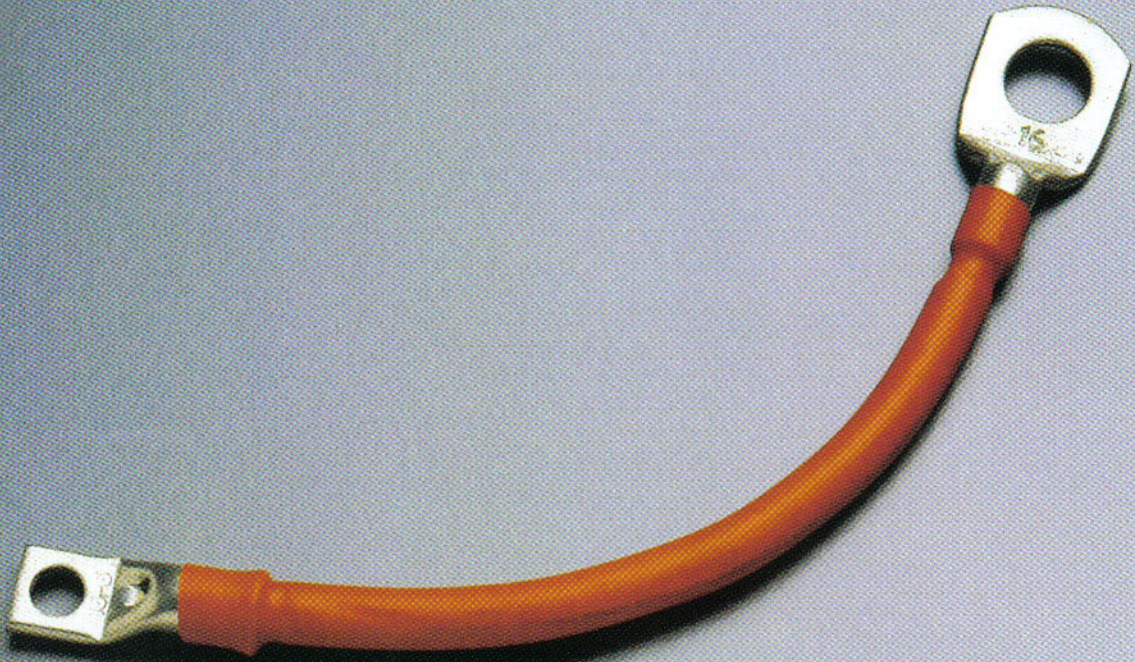
Ancillary Products

NHT	Heatshrinkable tape				19
NMA	Hot melt adhesive tape				20
CUTTING & PRINTING					20
NCPM	Expandable braided cable jacket				21
NHG	1400 watt model heat gun				22

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A premium grade thin wall polyolefin formulated to meet the most exacting specifications, NBRE is a very flexible, flame retarded* sleeving.

Available in a wide range of sizes up to 102mm diameter, NBRE complies with MIL-1-23053/5 Class 1 and 2*, DEF.STAN 59-97 type 2b*, UL 224*, and CSA* specifications.

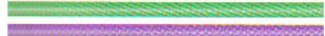
NBRE has extensive applications for both protective and aesthetic purposes, with good chemical and solvent resistance, and electrical performance.

NBRE is available in a range of colours, making it ideal for both coding and identification.

Standard colours



Non-standard colours



Physical properties

Shrink ratio	2:1
Material	Cross-linked polyolefin
Flexibility	Semi flexible
Colours	Standard: Black, Red, Blue, Yellow, White and Clear Non-standard: Green, Violet
Tensile strength	10.4N/mm ²
Ultimate elongation	200% min.
Relative density	1.3 max.
Longitudinal change	5% max.*

Thermal properties

Operating temperature range	-55°C to +135°C
Shrinkage temperature	>120°C
Storage stability	Very good

Electrical properties

Dielectric strength	20KV/mm
Diameters	>25.4mm 10KV/mm
Volume resistivity	10 ¹⁴ ohm.cm

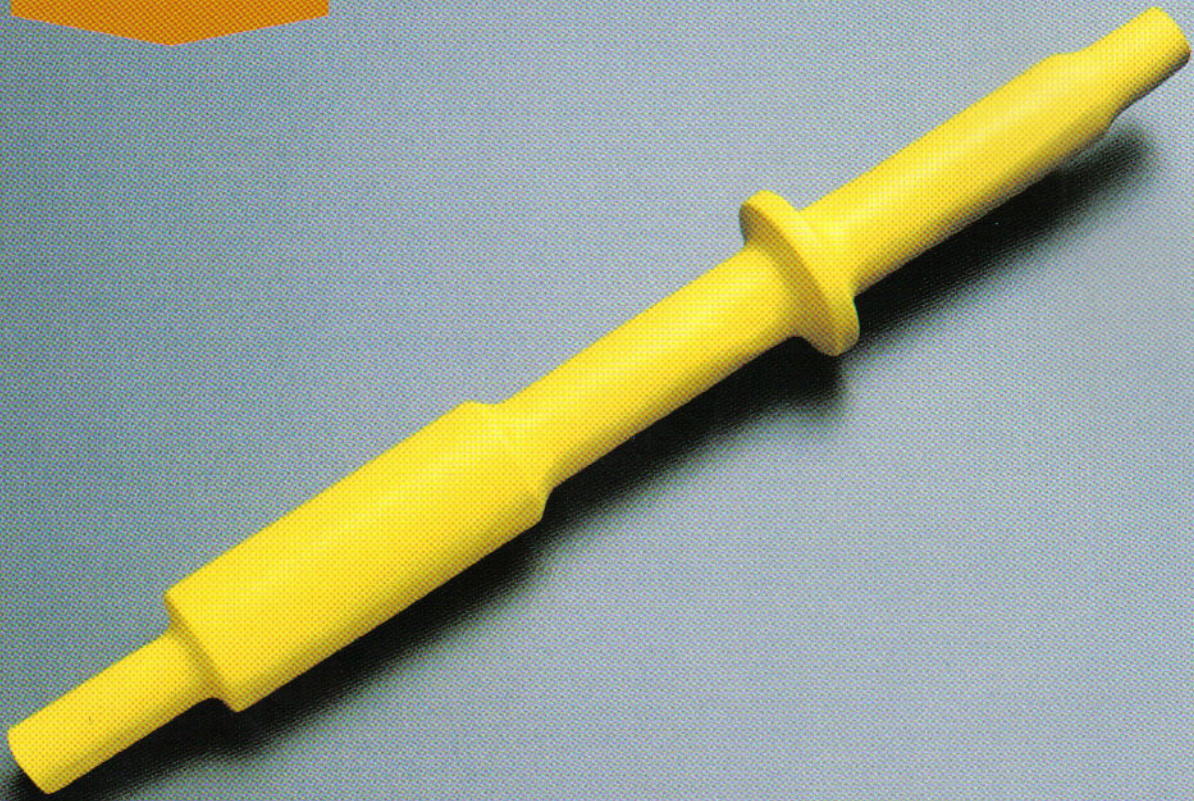
Chemical properties

Water absorption	0.4% (24h at 25°C)
Corrosion	Non-corrosive
Flammability	Self-extinguishing*

* Does not apply to clear variant.

PRODUCT CODE REF.	Internal diameter (mm)		Nominal wall thickness (mm)	Standard reel size (mtrs)
	Expanded as supplied min.	Recovered after heating max.		
NBRE12	1.2	0.6	0.46	150 or 300
NBRE16	1.6	0.8	0.46	150 or 300
NBRE24	2.4	1.2	0.51	150
NBRE32	3.2	1.6	0.51	150
NBRE48	4.8	2.4	0.51	75
NBRE64	6.4	3.2	0.64	75
NBRE95	9.5	4.8	0.64	75
NBRE127	12.7	6.4	0.64	75
NBRE190	19.0	9.5	0.76	75
NBRE254	25.4	12.7	0.89	30
NBRE380	38.0	19.0	1.02	30
NBRE510	51.0	25.4	1.14	30
NBRE762	76.0	38.0	1.27	15
NBRE1020	102.0	51.0	1.40	15

NBRE 3



The advantages of a premium grade thin wall polyolefin combined with the versatility of a good 3:1 shrink ratio.

Also available in a range of sizes up to 39mm diameter, NBRE 3 complies with MIL-1-23053/5 Class 1 and 2*, DEFSTAN 59-97 type 2b*, UL 224*, CSA* specifications.

The NBRE 3 shrink ratio enables fewer sizes to be stocked for a wider range of applications.

The added advantage of NBRE 3 availability in a range of colours, makes this versatile tubing ideal for strain relief, protection of terminals and both coding and identification.

Standard colours



Physical properties

Shrink ratio	3:1
Material	Cross-linked polyolefin
Flexibility	Semi flexible
Colours	Standard: Black, Red, Blue, Yellow, White and Clear

Tensile strength	10.4N/mm ²
Ultimate elongation	200% min.
Relative density	1.3 max.
Longitudinal change	10% max.

Thermal properties

Operating temperature range	-55°C to +135°C
Shrinkage temperature	>120°C
Storage stability	Very good

Electrical properties

Dielectric strength	20KV/mm
Volume resistivity	10 ¹⁴ ohm.cm

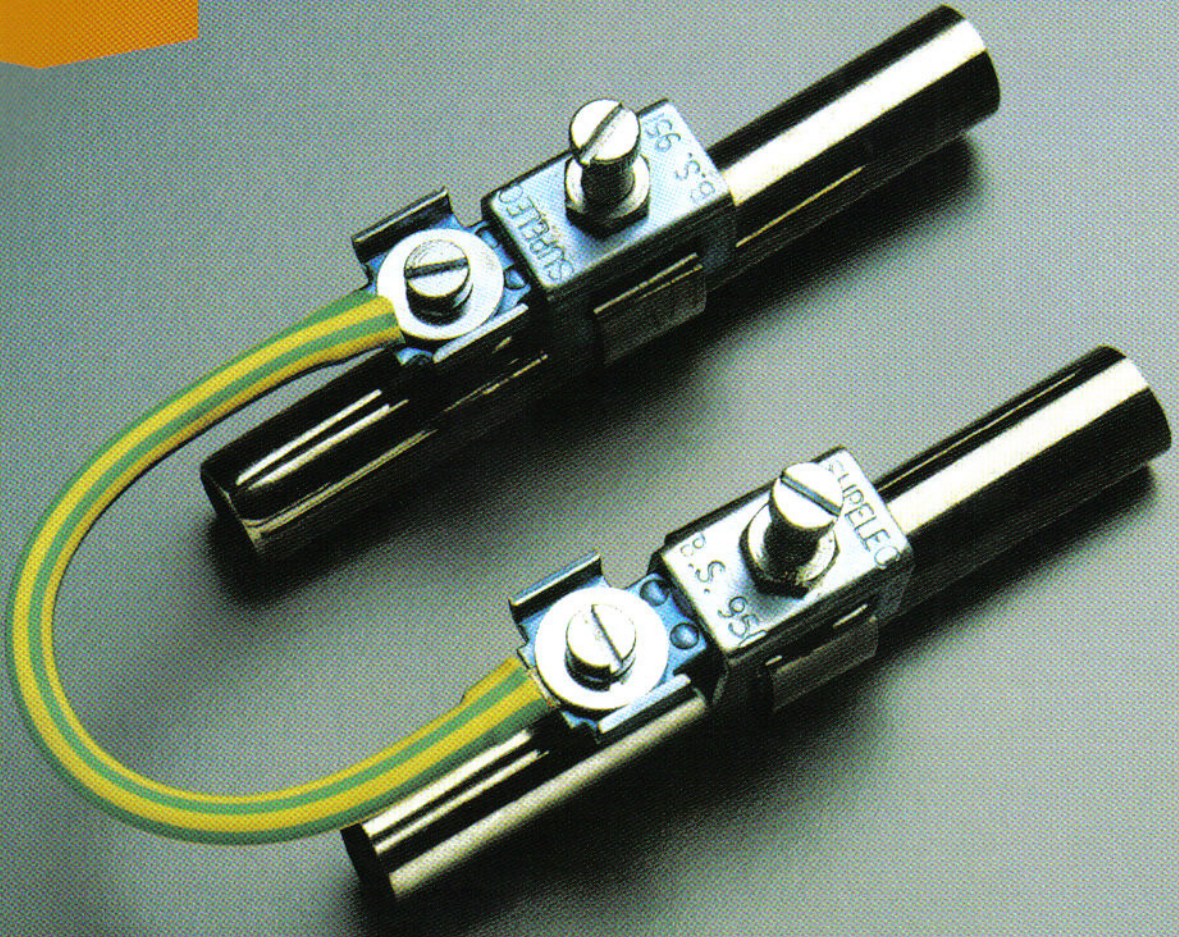
Chemical properties

Water absorption	0.4% (24h at 25°C)
Corrosion	Non-corrosive
Flammability	Self-extinguishing*

* Does not apply to clear variant.

PRODUCT CODE REF.	Internal diameter (mm)		Nominal wall thickness (mm)	Standard reel size (mtrs)
	Expanded as supplied min.	Recovered after heating max.		
NBRE3/15	1.5	0.5	0.45	300
NBRE3/30	3.0	1.0	0.55	150
NBRE3/60	6.0	2.0	0.65	60 or 75
NBRE3/90	9.0	3.0	0.75	60 or 75
NBRE3/120	12.0	4.0	0.75	60 or 75
NBRE3/180	18.0	6.0	0.85	60 or 75
NBRE3/240	24.0	8.0	1.00	30
NBRE3/390	39.0	13.0	1.15	30

NBRE-BI



An irradiated cross-linked polyolefin, co-extruded bi-colour sleeving, with a green and yellow longitudinal stripe. It is principally designed for earth identification of wires and cables. It is flexible and highly flame retarded with good solvent resistance, and offers a superior and more permanent colour identification than conventional ink marking systems.

Available in a wide range of sizes up to 38mm diameter, NBRE-BI complies with MIL-1-23053/5, DEFSTAN 59-97 Issue 3 type 2b, UL 224, and CSA specifications.

Standard colour

Physical properties

Shrink ratio	2:1
Material	Cross-linked polyolefin
Flexibility	Semi flexible
Colour	Green / Yellow
Tensile strength	10.3N/mm ²
Ultimate elongation	200% min.
Relative density	1.3 max.
Longitudinal change	5% max.

Thermal properties

Operating temperature range	-55°C to +135°C
Shrinkage temperature	>120°C
Storage stability	Very good

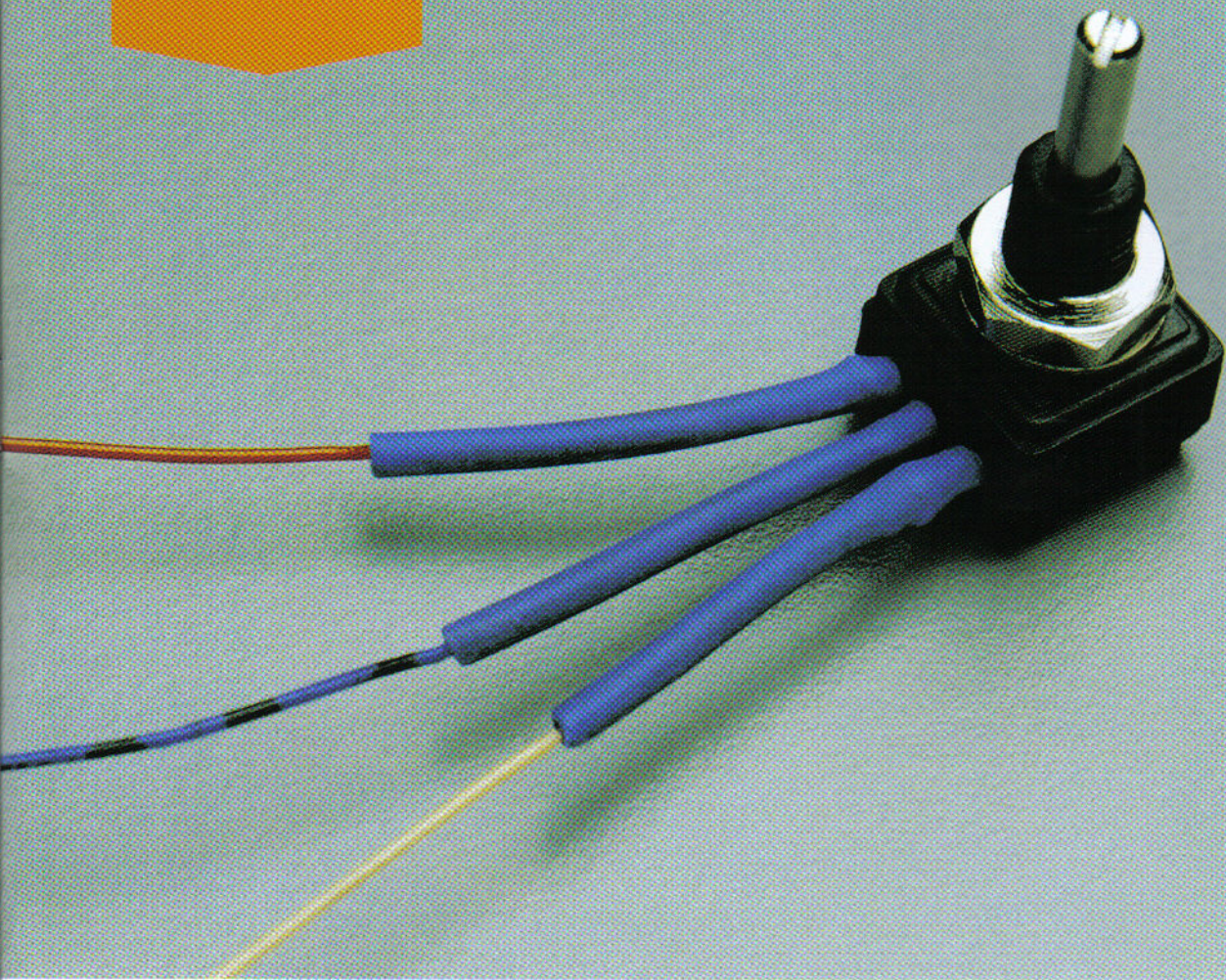
Electrical properties

Dielectric strength	15KV/mm
Volume resistivity	10 ¹⁴ ohm.cm

Chemical properties

Water absorption	0.5% (24h at 25°C)
Corrosion	Non-corrosive
Flammability	Self-extinguishing

PRODUCT CODE REF.	Internal diameter (mm)		Nominal wall thickness (mm)	Standard reel size (mtrs)
	Expanded as supplied min.	Recovered after heating max.		
NBRE-BI/16	1.6	0.8	0.45	300
NBRE-BI/24	2.4	1.2	0.51	150
NBRE-BI/32	3.2	1.6	0.51	150
NBRE-BI/48	4.8	2.4	0.51	75
NBRE-BI/64	6.4	3.2	0.65	60
NBRE-BI/95	9.5	4.8	0.65	60
NBRE-BI/127	12.7	6.4	0.65	60
NBRE-BI/190	19.0	9.5	0.77	60
NBRE-BI/254	25.4	12.7	0.89	30
NBRE-BI/380	38.0	19.1	1.02	30



A tough, general purpose, polyolefin sleeving, NSG is a competitively priced commercial grade. It is a semi flexible, flame retarded* sleeving.

Available in a wide range of sizes up to 102mm diameter, NSG complies with UL 224*, and CSA* specifications.

NSG has extensive applications of use, including electrical insulation and mechanical protection, with little compromise on specification.

NSG is also available in a range of colours, making it ideal for identification of electrical and electronic components, pipes, cables and wires.

Standard colours



Non-standard colour



Physical properties

Shrink ratio	2:1
Material	Cross-linked polyolefin
Flexibility	Semi flexible
Colours	Standard: Black, Red, Blue, Yellow, White and Clear Non-standard: Green

Tensile strength	10.4N/mm ²
Ultimate elongation	200% min.
Relative density	1.3 max.
Longitudinal change	10% max.

Thermal properties

Operating temperature range	-55°C to +125°C
Shrinkage temperature	>120°C
Storage stability	Very good

Electrical properties

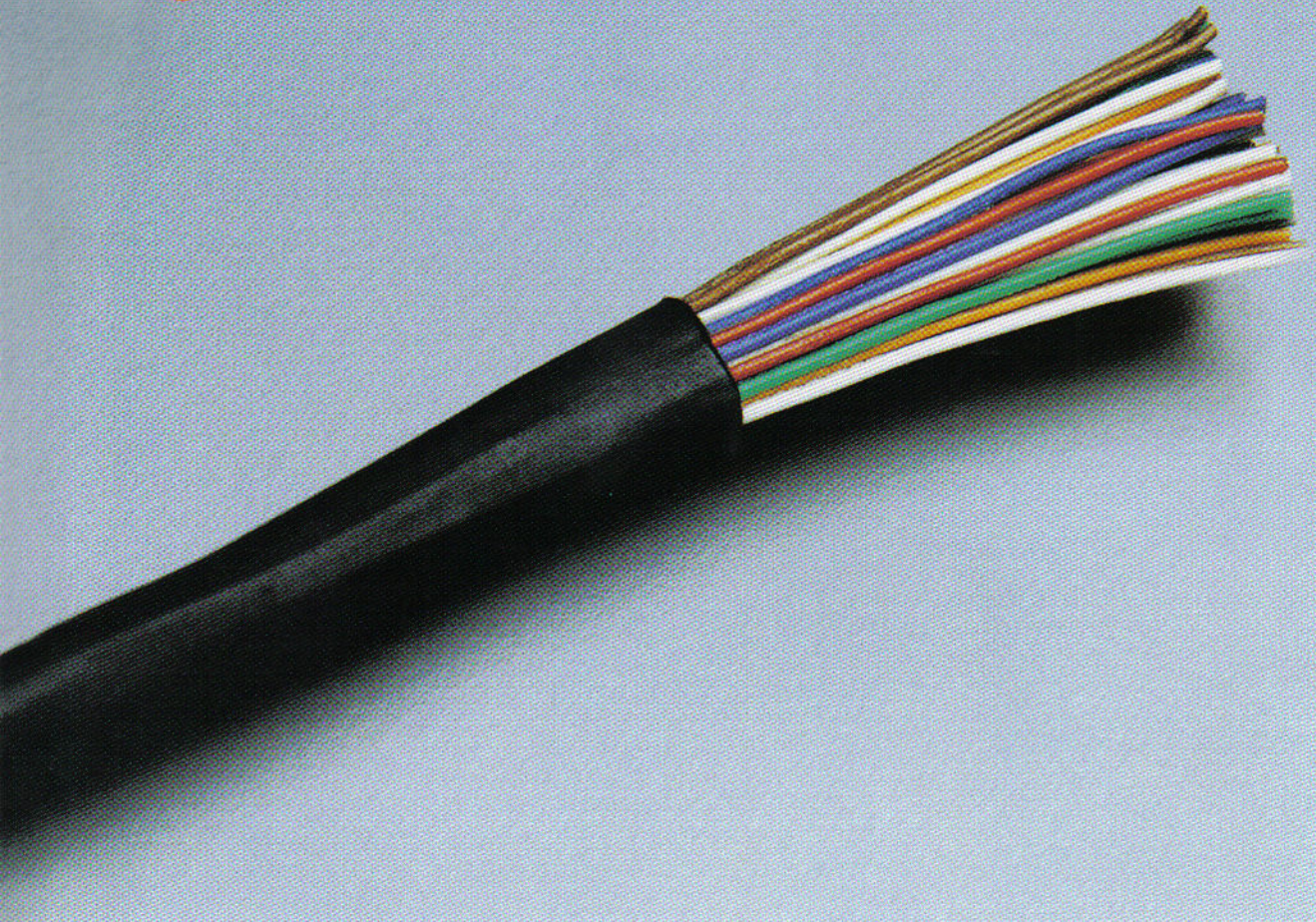
Dielectric strength	20KV/mm
Diameters	>25.4mm 10KV/mm
Volume resistivity	10 ¹⁴ ohm.cm

Chemical properties

Water absorption	0.4% (24h at 25°C)
Corrosion	Non-corrosive
Flammability	Self-extinguishing*

* Does not apply to clear variant.

PRODUCT CODE REF.	Internal diameter (mm)		Nominal wall thickness (mm)	Standard reel size (mtrs)
	Expanded as supplied min.	Recovered after heating max.		
MSG12	1.2	0.6	0.41	150 or 300
MSG16	1.6	0.8	0.45	150 or 300
MSG24	2.4	1.2	0.50	150
MSG32	3.2	1.6	0.50	150
MSG48	4.8	2.4	0.50	75 or 150
MSG64	6.4	3.2	0.65	75
MSG95	9.5	4.8	0.65	75
MSG127	12.7	6.4	0.65	75
MSG190	19.0	9.5	0.75	75
MSG254	25.4	12.7	0.90	30
MSG320	32.0	16.0	0.93	30
MSG380	38.0	19.0	1.00	30
MSG510	51.0	25.4	1.15	30
MSG762	76.0	38.0	1.25	15
MSG1020	102.0	51.0	1.40	15



The high flexibility of NVF is its most important feature. However, the fact that it shrinks at temperatures as low as 100°C also makes it the ideal choice for faster, more positive shrinkage where the substrate is sensitive to excessive heat.

Available in a wide range of sizes up to nearly 102mm diameter, NVF is highly flame retarded to meet the stringent requirements of UL 224 VW-1* and CSA-OFT*. NVF therefore comes highly recommended for the faster application requirement, meeting the highest level of flame retardation*.

NVF is available in a range of colours, and is also impervious to the most commonly used chemicals and solvents.

Standard colours



Non-standard colour



Physical properties

Shrink ratio	2:1
Material	Cross-linked polyolefin
Flexibility	Very flexible
Colours	Standard: Black, Red, Blue, Yellow, and White Non-standard: Clear
Tensile strength	15N/mm ²
Ultimate elongation	400% min.
Relative density	1.3 max.
Longitudinal change	5% max.

Thermal properties

Operating temperature range	-55°C to +135°C
Shrinkage temperature	>100°C
Storage stability	Very good

Electrical properties

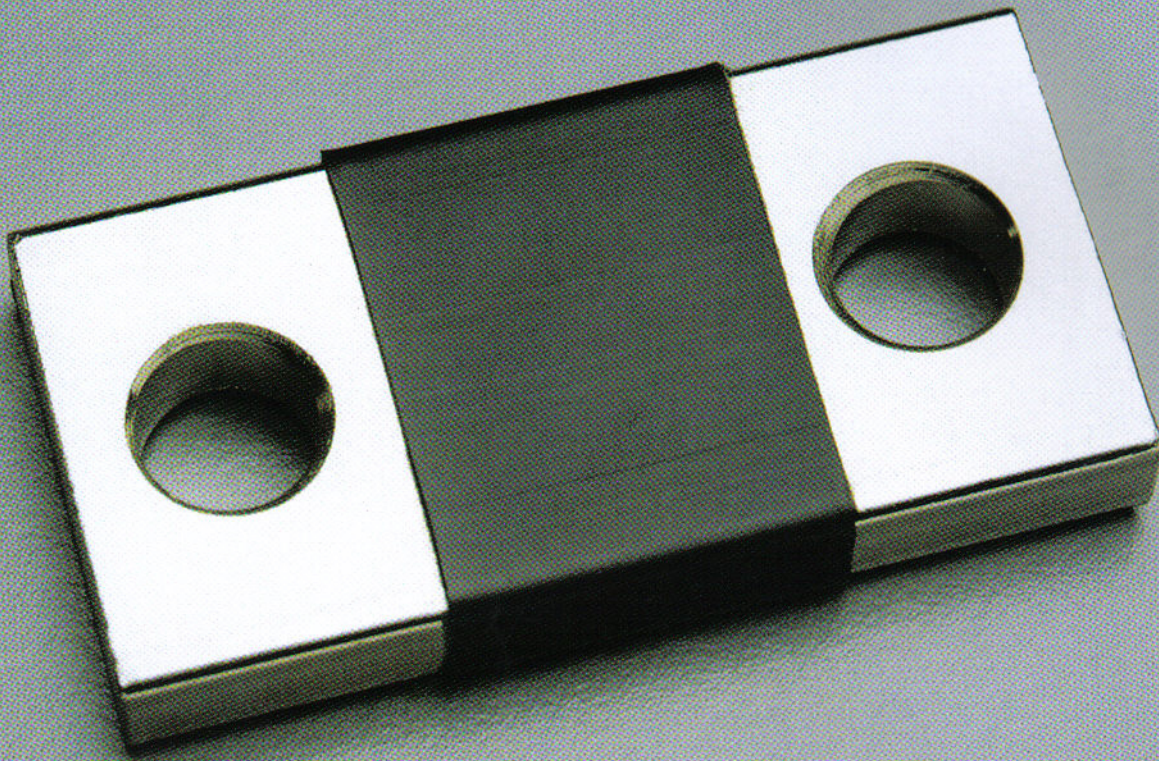
Dielectric strength	20KV/mm
Volume resistivity	10 ¹⁴ ohm.cm

Chemical properties

Water absorption	0.4% (24h at 25°C)
Corrosion	Non-corrosive
Flammability	Self-extinguishing*

* Does not apply to clear variant.

PRODUCT CODE REF.	Internal diameter (mm)		Nominal wall thickness (mm) after heating (full recovery)	Standard reel size (mtrs)
	Expanded as supplied min.	Recovered after heating max.		
NVF12	1.2	0.6	0.41	150 or 300
NVF16	1.6	0.8	0.43	150 or 300
NVF24	2.4	1.2	0.51	150
NVF32	3.2	1.6	0.51	150
NVF48	4.8	2.4	0.51	150
NVF64	6.4	3.2	0.64	75
NVF95	9.5	4.8	0.64	75
NVF127	12.7	6.4	0.64	75
NVF190	19.0	9.5	0.76	75
NVF254	25.4	12.7	0.89	30
NVF380	38.0	19.0	1.02	30
NVF510	50.8	25.4	1.14	30
NVF762	76.2	38.1	1.30	15
NVF1020	101.6	51.0	1.40	15



An entry level PVC heatshrinkable sleeving, sensibly priced for a good range of general purpose applications. Self extinguishing and with a good abrasion resistance, it is well suited for electrical insulation, particularly bus bars.

NTRV is available in a wide range of colours, making it ideal for protective coverings, cosmetic finishes and both coding and identification.

Standard colours



Physical properties

Shrink ratio	2:1
Material	PVC
Flexibility	Semi flexible
Colours	Standard: Black, Red, Blue and Yellow
Tensile strength	23.0N/mm ²
Ultimate elongation	280% min.
Relative density	1.3 max.
Longitudinal change	15% max. >51mm 20% max.

Thermal properties

Operating temperature range	-30°C to +105°C
Shrinkage temperature	>160°C
Storage stability	Store <25°C

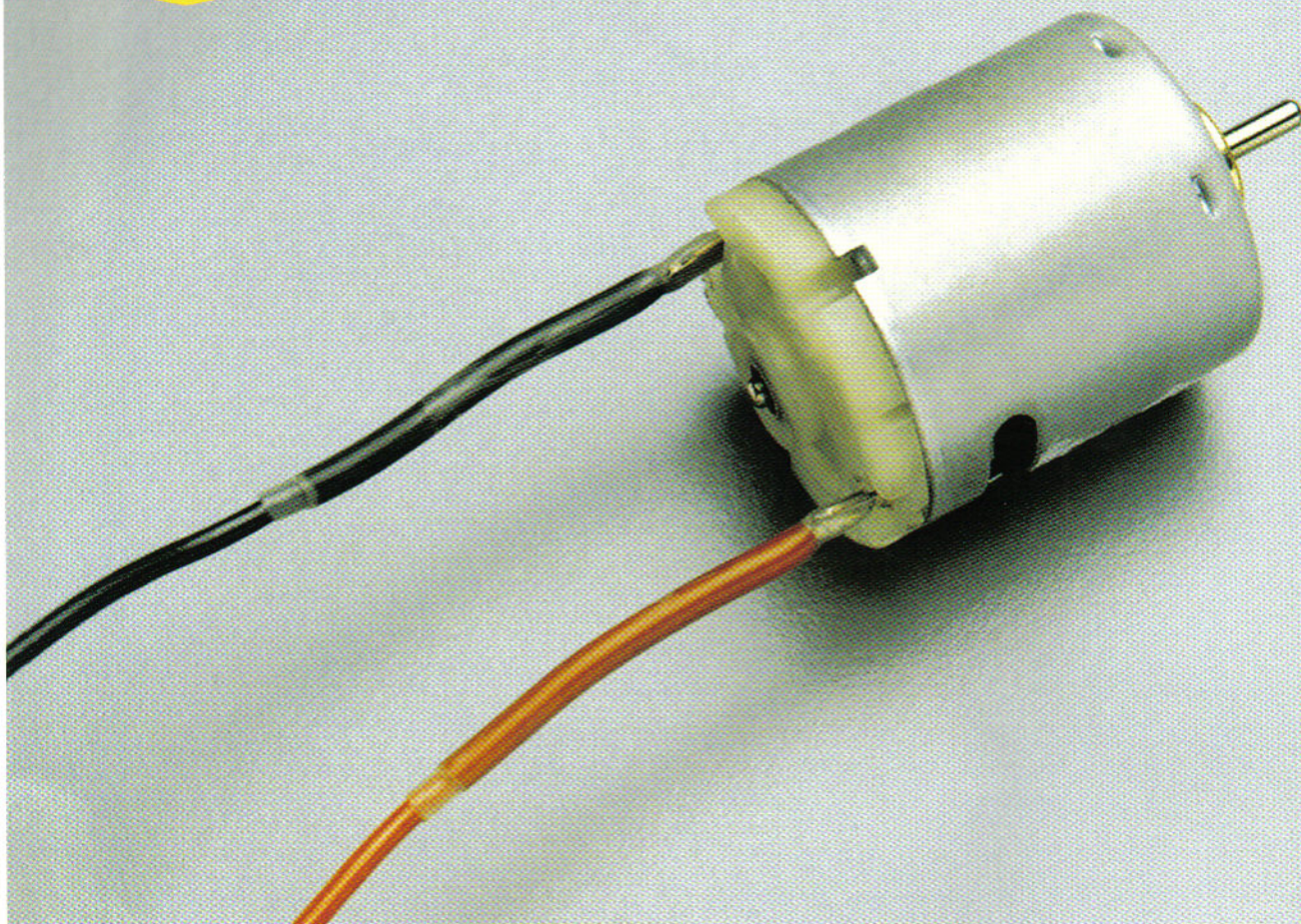
Electrical properties

Dielectric strength	20KV/mm
Volume resistivity	10 ¹³ ohm.cm

Chemical properties

Water absorption	0.2% (24h at 25°C)
Corrosion	Non-corrosive
Flammability	Self-extinguishing

PRODUCT CODE REF.	Internal diameter (mm)		Nominal wall thickness (mm)	Standard reel size (mtrs)
	Expanded as supplied min.	Recovered after heating max.		
NTRV24	2.4	1.2	0.50	100
NTRV32	3.2	1.6	0.50	100
NTRV48	4.8	2.4	0.50	100
NTRV64	6.4	3.2	0.60	100
NTRV95	9.5	4.8	0.60	100
NTRV27	12.7	6.4	0.60	50
NTRV150	15.0	7.5	0.60	50
NTRV190	19.0	9.5	0.70	25
NTRV254	25.4	12.7	0.80	25
NTRV320	32.0	16.0	1.00	25
NTRV380	38.0	19.0	1.10	25
NTRV510	50.8	25.5	1.20	25
NTRV762	76.0	38.1	1.20	25
NTRV1020	101.6	51.0	1.20	25



NTRK is a thin wall sleeving with an extremely good tensile strength making it ideal when a high degree of protection of wires or components is required.

Manufactured from cross-linked Kynar®, NTRK is transparent, non burning and possesses excellent resistance to fuels, solvents and chemicals. It also has an operating range of -55°C to $+175^{\circ}\text{C}$ and complies with MIL-1-23053/8, UL 224 VW-1, CSA and DEF.STAN 59-97 type 3.

Kynar® is a trade mark of Elf Atochem.

Standard colour

Physical properties

Shrink ratio	2:1
Material	(PVDF) cross-linked Kynar®
Flexibility	Semi rigid
Colour	Clear
Tensile strength	35.0N/mm ²
Ultimate elongation	150% min.
Relative density	1.8 max.
Longitudinal change	10% max.

Thermal properties

Operating temperature range	-55°C to $+175^{\circ}\text{C}$
Shrinkage temperature	$>175^{\circ}\text{C}$
Storage stability	Excellent

Electrical properties

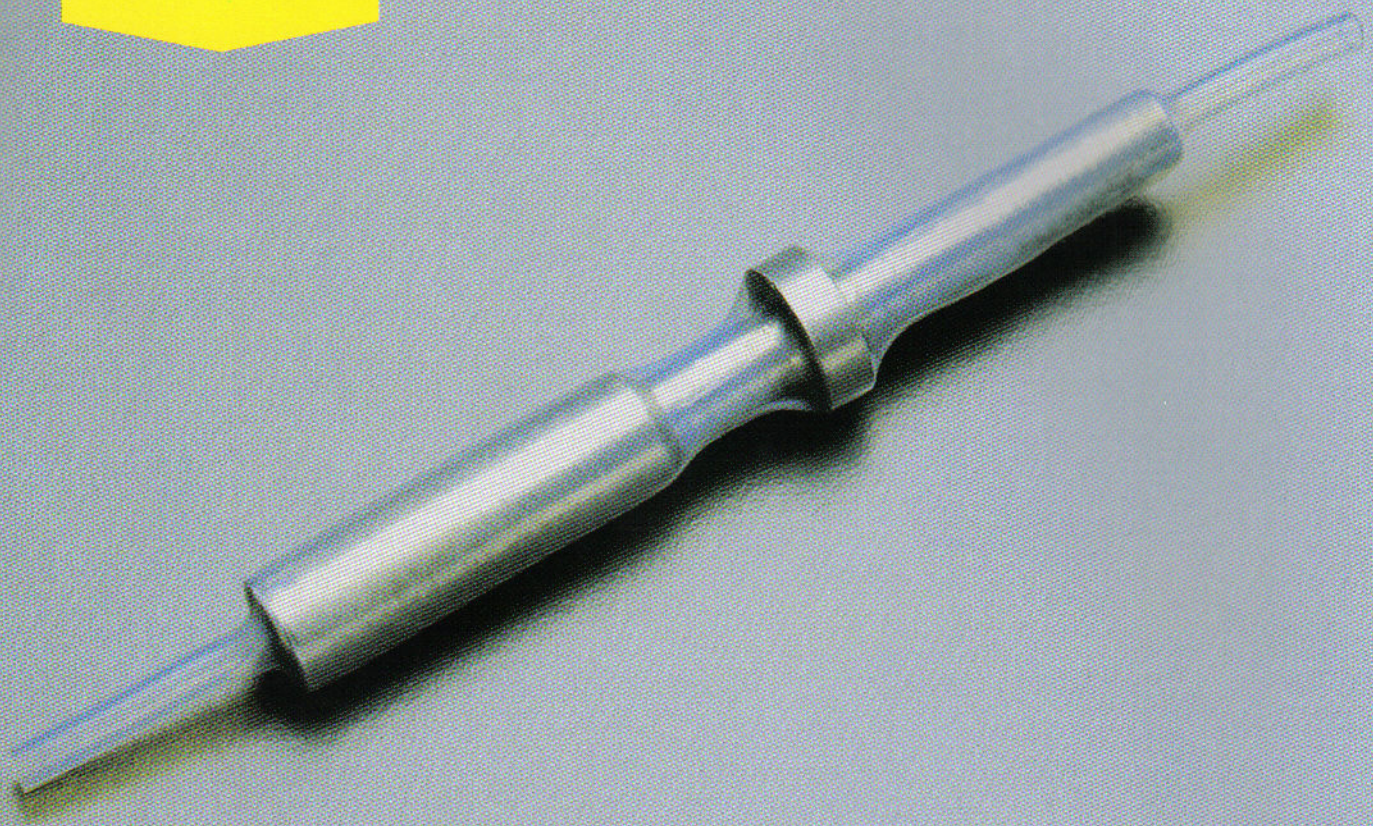
Dielectric strength	30KV/mm
Volume resistivity	10^{13}ohm.cm

Chemical properties

Water absorption	0.1% (24h at 25°C)
Corrosion	Non-corrosive
Flammability	Self-extinguishing

PRODUCT CODE REF.	Internal diameter (mm)		Nominal wall thickness (mm)	Standard size (mtrs)
	Expanded as supplied min.	Recovered after heating max.		
NTRK12	1.2	0.6	0.25	1.2
NTRK16	1.6	0.8	0.25	1.2
NTRK24	2.4	1.2	0.25	1.2
NTRK32	3.2	1.6	0.25	1.2
NTRK48	4.8	2.4	0.25	1.2
NTRK64	6.4	3.2	0.30	1.2
NTRK95	9.5	4.8	0.30	1.2
NTRK127	12.7	6.4	0.30	1.2
NTRK190	19.0	9.5	0.43	1.2
NTRK254	25.4	12.7	0.48	1.2

NTTR



NTTR is made from PTFE. The PTFE heatshrinkable sleeving will operate at very high continuous temperatures of up to 260°C. It is resistant to chemical attack in the most hostile of environments, is non-burning, and features a wide ranging 4:1 shrink ratio.

Available as a translucent sleeving in a range of sizes up to nearly 32mm diameter, NTTR exhibits an extremely low coefficient of friction making it ideal for applications such as bearing shafts as well as high temperature applications such as hydraulic hose fittings and coupling covers.

Standard colour

Physical properties

Shrink ratio	4:1
Material	Polytetrafluoroethylene
Flexibility	Semi flexible
Colour	Translucent
Tensile strength	1.7.5N/mm ²
Ultimate elongation	200% min.
Relative density	2.2 max.
Longitudinal change	20% max.

Thermal properties

Operating temperature range	-65°C to +260°C
Shrinkage temperature	>350°C
Storage stability	Excellent

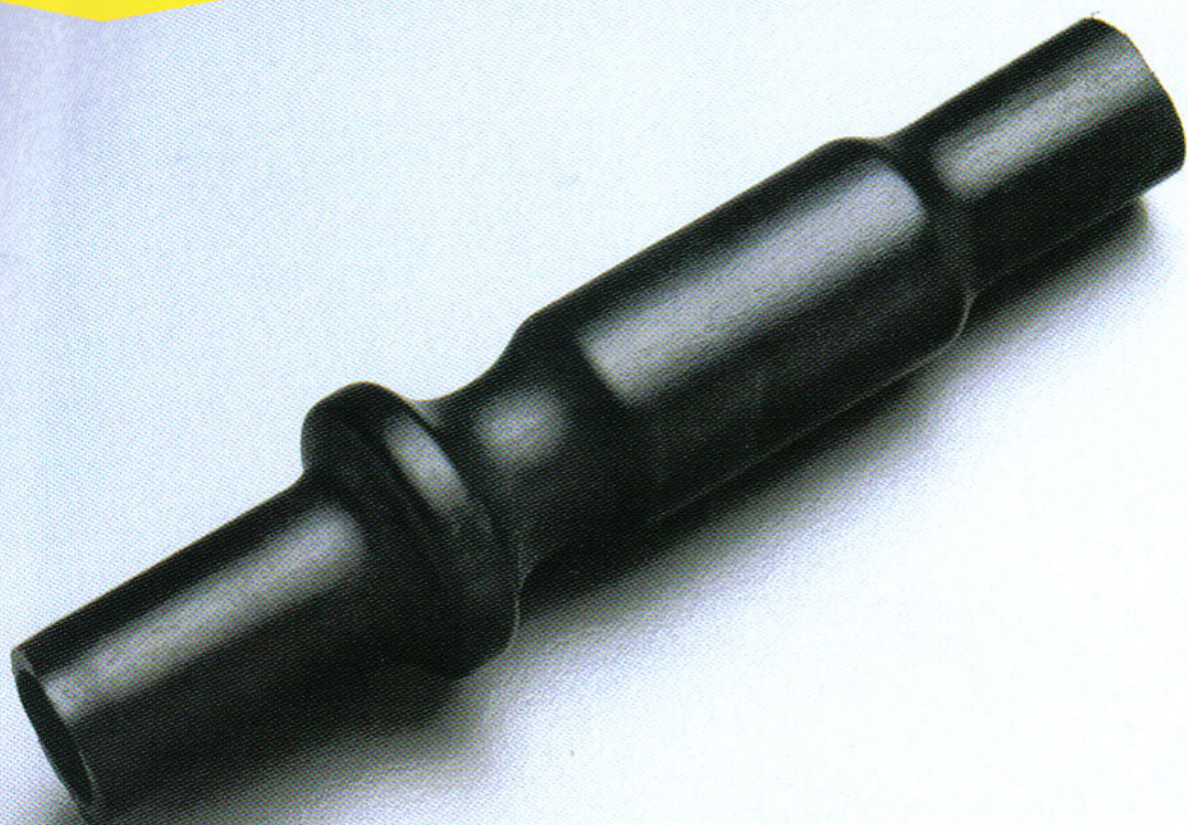
Electrical properties

Dielectric strength	40KV/mm
Volume resistivity	10 ¹⁸ ohm.cm

Chemical properties

Water absorption	0.1% (24h at 25°C)
Corrosion	Non-corrosive
Flammability	Non-burning

PRODUCT CODE REF.	Internal diameter (mm)		Nominal wall thickness (mm)	Standard reel size (mtrs)
	Expanded as supplied min.	Recovered after heating max.		
NTTR20	1.9	0.7	0.23	1.2 or 30
NTTR32	3.1	1.0	0.25	1.2 or 30
NTTR48	4.7	1.3	0.28	1.2 or 30
NTTR64	6.3	1.6	0.30	1.2 or 30
NTTR95	9.5	2.5	0.30	1.2
NTTR127	12.7	3.7	0.38	1.2
NTTR158	15.8	4.6	0.38	1.2
NTTR190	19.0	5.7	0.38	1.2
NTTR254	25.4	7.1	0.38	1.2
NTTR320	31.7	8.9	0.38	1.2



A diesel resistant cross-linked elastomeric sleeving, NDR is the ideal abrasion resistant insulation for vehicle cables and harnesses.

Available in Black in a range of sizes up to 76mm diameter, NDR complies with MIL-1-23053/16 for diameters 6.4mm and above, and DEF.STAN 59-97 type 6b approvals.

NDR has a long term heat resistance and high temperature fluid resistance.

Standard colour

Physical properties

Shrink ratio	2:1
Material	Cross-linked elastomer
Flexibility	Semi flexible
Colour	Black
Tensile strength	10.4N/mm ²
Ultimate elongation	250% min.
Relative density	1.4 max.
Longitudinal change	10% max.

Thermal properties

Operating temperature range	-75°C to +130/150°C*
Shrinkage temperature	>150°C
Storage stability	Very good

Electrical properties

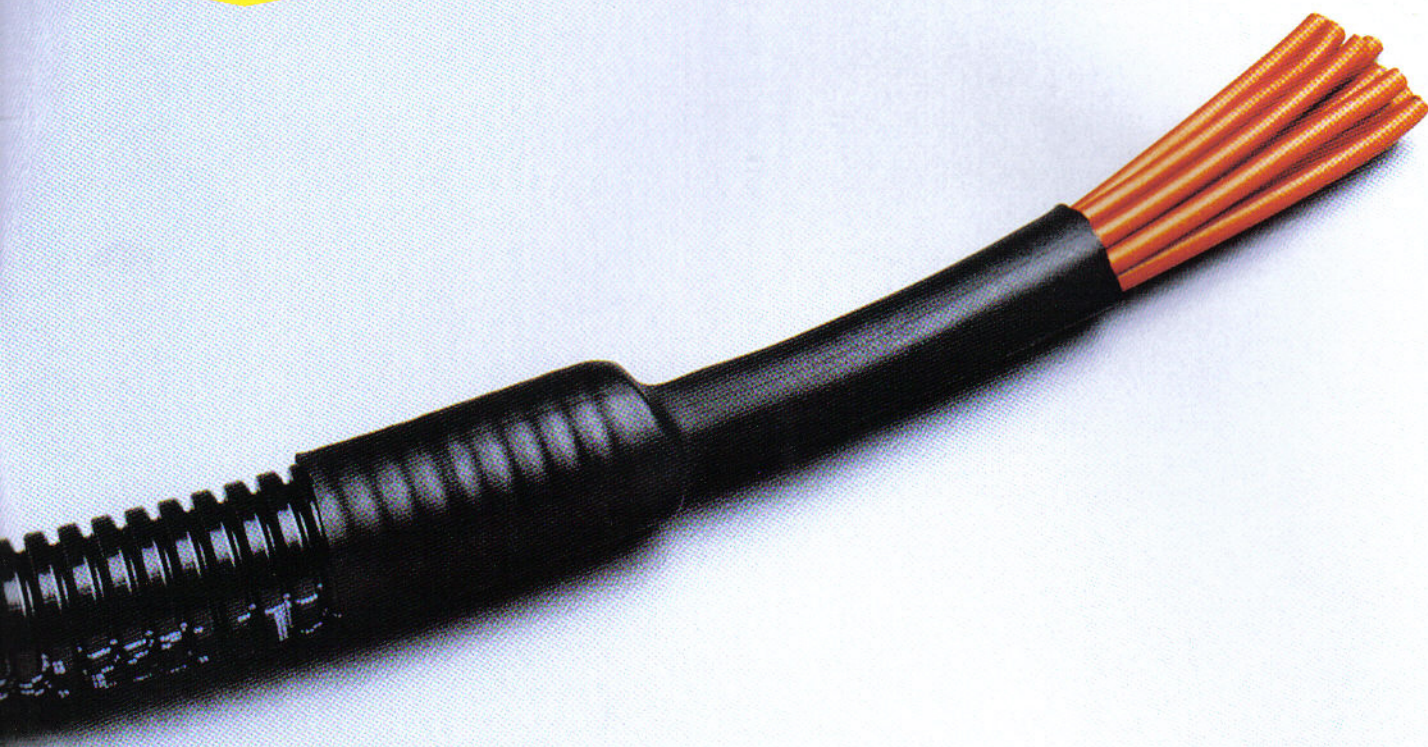
Dielectric strength	12KV/mm
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Chemical properties

Corrosion	Non-corrosive
Flammability	Highly flame retarded

* 150°C available on request.

PRODUCT CODE REF.	Internal diameter (mm)		Nominal wall thickness (mm)	Standard reel size (mtrs)
	Expanded as supplied min.	Recovered after heating max.		
NDR32	3.2	1.6	0.76	150
NDR48	4.8	2.4	0.84	75
NDR64	6.4	3.2	0.89	60
NDR95	9.5	4.8	1.02	30
NDR127	12.7	6.4	1.22	30
NDR190	19.0	9.5	1.45	30
NDR254	25.4	12.7	1.78	30
NDR380	38.0	19.0	2.41	15
NDR510	51.0	25.4	2.79	15
NDR762	76.2	38.1	3.18	15



NVTN is a cross-linked fluoroelastomer. The VITON® heatshrinkable sleeving will operate at very high continuous temperatures of up to 200°C. It is resistant to chemical attack, is self-extinguishing, and will withstand impact and mechanical abuse.

Available in Black in a range of sizes up to 51mm diameter, NVTN complies with DEFSTAN 59-97 type 4A approval.

VITON® is a trademark of Du Pont.

Standard colour

Physical properties

Shrink ratio	2:1
Material	Cross-linked fluoroelastomer
Flexibility	Semi flexible
Colour	Black
Tensile strength	8.4N/mm ²
Ultimate elongation	250% min.
Relative density	1.9 max.
Longitudinal change	20% max.

Thermal properties

Operating temperature range	-40°C to +200°C
Shrinkage temperature	>175°C
Storage stability	Very good

Electrical properties

Dielectric strength	7.5KV/mm
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Chemical properties

Corrosion	Non-corrosive
Flammability	Highly flame retarded

PRODUCT CODE REF.	Internal diameter (mm)		Nominal wall thickness (mm) after heating (full recovery)	Standard reel size (mtrs)
	Expanded as supplied min.	Recovered after heating max.		
NVTN32	3.2	1.6	0.76	30 or 50
NVTN48	4.8	2.4	0.84	30 or 50
NVTN64	6.4	3.2	0.89	30 or 50
NVTN95	9.5	4.8	1.02	30 or 50
NVTN127	12.7	6.4	1.22	30
NVTN190	19.0	9.5	1.45	30
NVTN254	25.4	12.7	1.78	30
NVTN380	38.0	19.0	2.41	15
NVTN510	51.0	25.4	2.79	15



NDW is a semi-flexible dual wall heatshrinkable sleeving. As the sleeving shrinks, the inner adhesive lining melts and flows to encapsulate the components contained within, providing a permanent moisture barrier. The versatility of this product for protecting cable jackets, wire splices or electrical components is further enhanced by the 3:1 and 4:1 shrink ratios, so that only a few sizes are required for a comprehensive range of diameter applications.

NDW is available in a range of colours both as 1.2mtr lengths and as continuous reels for certain sizes.

Standard colour



Non-standard colours



Physical properties

Shrink ratio	3:1 and 4:1
Material	Cross-linked polyolefin
Flexibility	Semi flexible
Colours	Standard: Black Non-standard: Clear, Red, Blue, Yellow, White
Tensile strength	9N/mm ²
Ultimate elongation	300% min.
Relative density	1.25 max.
Longitudinal change	15% max.

Thermal properties

Operating temperature range	-55°C to +80°C
Shrinkage temperature	>125°C

Electrical properties

Dielectric strength	12KV/mm
Volume resistivity	10 ¹⁵ ohm.cm
Storage stability	Very good

Chemical properties

Water absorption	0.5% (24h at 25°C)
Corrosion	Non-corrosive
Flammability	Self-extinguishing*

* Does not apply to clear variant, nor to adhesive lining.

PRODUCT CODE REF.	Internal diameter (mm)		Nominal wall thickness (mm) after heating (full recovery)	Standard size (mtrs)
	Expanded as supplied min.	Recovered after heating max.		
NDW32	3.0	1.0	1.00	1.2 or 60
NDW48	4.8	1.8	1.00	1.2 or 60
NDW64	6.0	2.0	1.00	1.2 or 60
NDW95	9.0	3.0	1.40	1.2 or 60
NDW127	12.0	4.0	1.75	1.2 or 60
NDW190	19.0	6.0	2.25	1.2
NDW254	24.0	8.0	2.50	1.2
NDW390	39.0	13.0	2.50	1.2
NDW4/1	4.0	1.0	1.00	1.2
NDW8/2	8.0	2.0	1.00	1.2
NDW12/3	12.0	3.0	1.40	1.2
NDW16/4	16.0	4.0	1.75	1.2 or 60
NDW24/6	24.0	6.0	2.25	1.2
NDW32/8	32.0	8.0	2.50	1.2
NDW52/13	52.0	13.0	2.50	1.2

NMW NMWA



NMW is a medium wall semi-rigid sleeving, available in Black 1.2mtr unlined lengths. It comes in a range of sizes up to 230mm diameter.

NMW is available in a shrink ratio of typically 3:1 and benefits from the wall thickness where wear resistance and mechanical strength are important.

It is also available with a hot melt adhesive lining NMWA, or with a mastic sealant NMWA(S). These combine the attributes of the unlined material with the benefit of the lining, making it the ideal solution to cable jointing and repairs, both above and below ground where it protects against ingress of moisture, salt water and chlorine attack.

Standard colour

Physical properties

Shrink ratio	Typically 3:1
Material	Cross-linked polyolefin with respective lining where applicable
Flexibility	Semi rigid
Colour	Black
Tensile strength	14.0N/mm ²
Ultimate elongation	300% min.
Relative density	1.1 max.
Longitudinal change	10% max.

Thermal properties

Operating temperature range	-55°C to +80°C
Shrinkage temperature	>120°C
Storage stability	Very good

Electrical properties

Dielectric strength	20KV/mm
Volume resistivity	10 ¹⁴ ohm.cm

Chemical properties

Water absorption	0.05% (24h at 25°C)
Corrosion	Non-corrosive
Flammability	Self-extinguishing (tubing only)

PRODUCT CODE REF.	Internal diameter (mm)		Nominal wall thickness (mm)	Standard size (mtrs)
	Expanded as supplied min.	Recovered after heating max.		
NMW12/3	12.0	3.0	2.0	1.2
NMW20/6	20.0	6.0	2.0	1.2
NMW25/8	25.0	8.0	2.0	1.2
NMW30/10	30.0	10.0	2.0	1.2
NMW34/10	34.0	10.0	2.0	1.2
NMW40/12	40.0	12.0	2.0	1.2
NMW45/13	45.0	13.0	2.0	1.2
NMW54/18	54.0	18.0	2.0	1.2
NMW70/25	70.0	25.0	2.0	1.2
NMW90/30	90.0	30.0	2.4	1.2
NMW122/40	122.0	40.0	2.6	1.2
NMW170/58	170.0	58.0	2.8	1.2
NMW230/77	229.0	77.0	3.0	1.2**

* Please prefix the above numerical reference with NMWA for hot melt adhesive, and NMWA(S) for the mastic sealant.

** Non-standard size available on request.



NEC are a range of polyolefin semi rigid heatshrinkable end caps, which are coated internally with a hot melt adhesive.

They offer a quick and very effective method of sealing against moisture in most types of communication and electrical cables. NEC are also resistant to corrosion, abrasion and mechanical damage.

Standard colour

Physical properties

Shrink ratio	>2:1
Material	Cross-linked polyolefin with adhesive lining
Flexibility	Semi rigid
Colour	Black
Tensile strength	14.0N/mm ²
Ultimate elongation	300% min.
Relative density	1.1 max.

Thermal properties

Operating temperature range	-55°C to +105°C
Shrinkage temperature	>135°C
Storage stability	Very good

Electrical properties

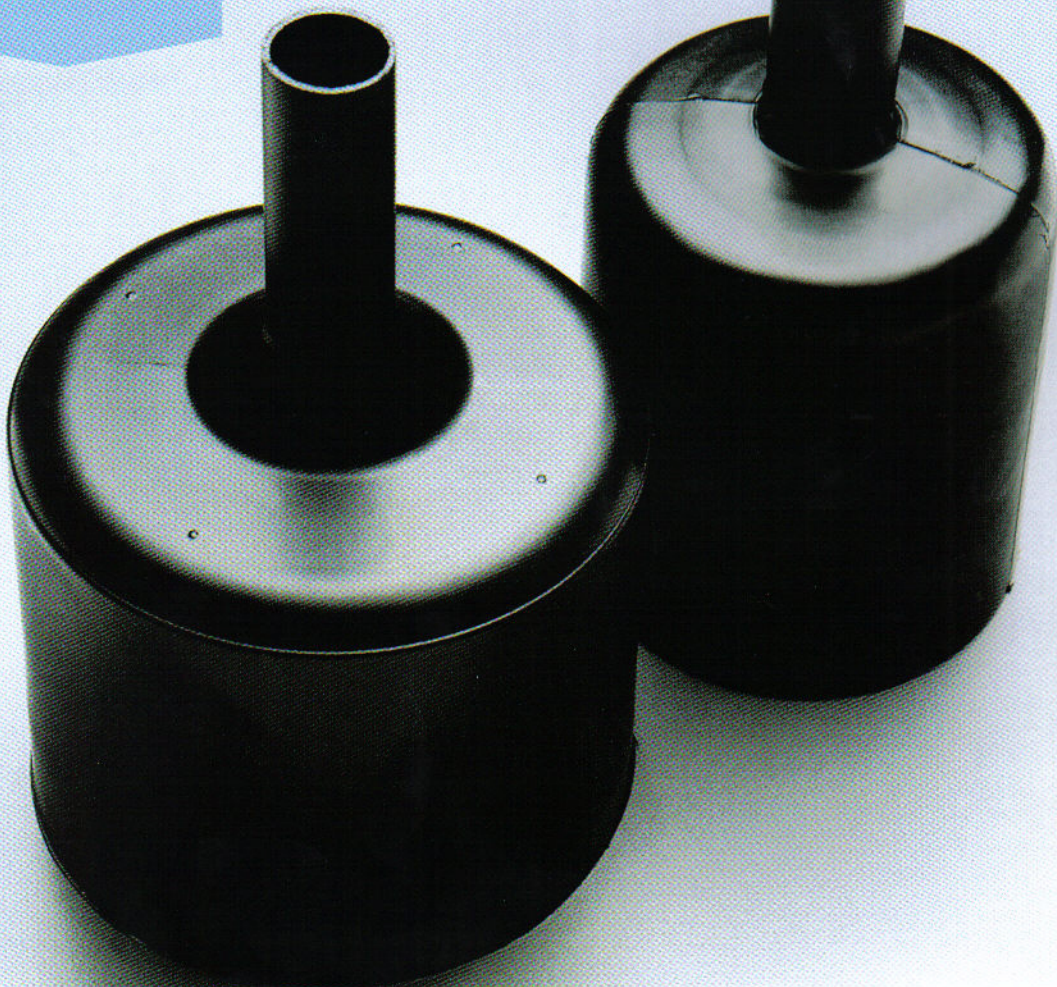
Dielectric strength	11KV/mm
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Chemical properties

Water absorption	0.5% (24h at 25°C)
Corrosion	Non-corrosive
Flammability	Adhesive not self-extinguishing

PRODUCT CODE REF.	Internal diameter (mm)		Nominal wall thickness (mm)	Supplied body length (mm)
	Expanded as supplied min.	Recovered after heating max.		
NEC15001	10.0	4.5	2.2	35.0
NEC15002	14.0	6.0	2.2	58.0
NEC15003	17.0	9.0	2.5	52.0
NEC15004	37.0	17.5	2.8	98.0
NEC15005	52.0	25.0	3.5	140.0
NEC15006	100.0	46.0	3.8	176.0
NEC15016	70.0	35.0	3.8	165.0

NAC



NAC are a range of polyolefin semi-rigid heatshrinkable anode caps, which are coated internally with a highly protective mastic lining and are capable of withstanding the most aggressive environmental conditions including chlorine and moisture attack.

Standard colour

Physical properties

Shrink ratio	>2:1
Material	Cross-linked polyolefin with mastic lining
Flexibility	Semi flexible
Colour	Black
Tensile strength	14.0N/mm ²
Ultimate elongation	500% min.
Relative density	1.2 max.

Thermal properties

Operating temperature range	-55°C to +70°C
Shrinkage temperature	>135°C
Storage stability	Very good

Electrical properties

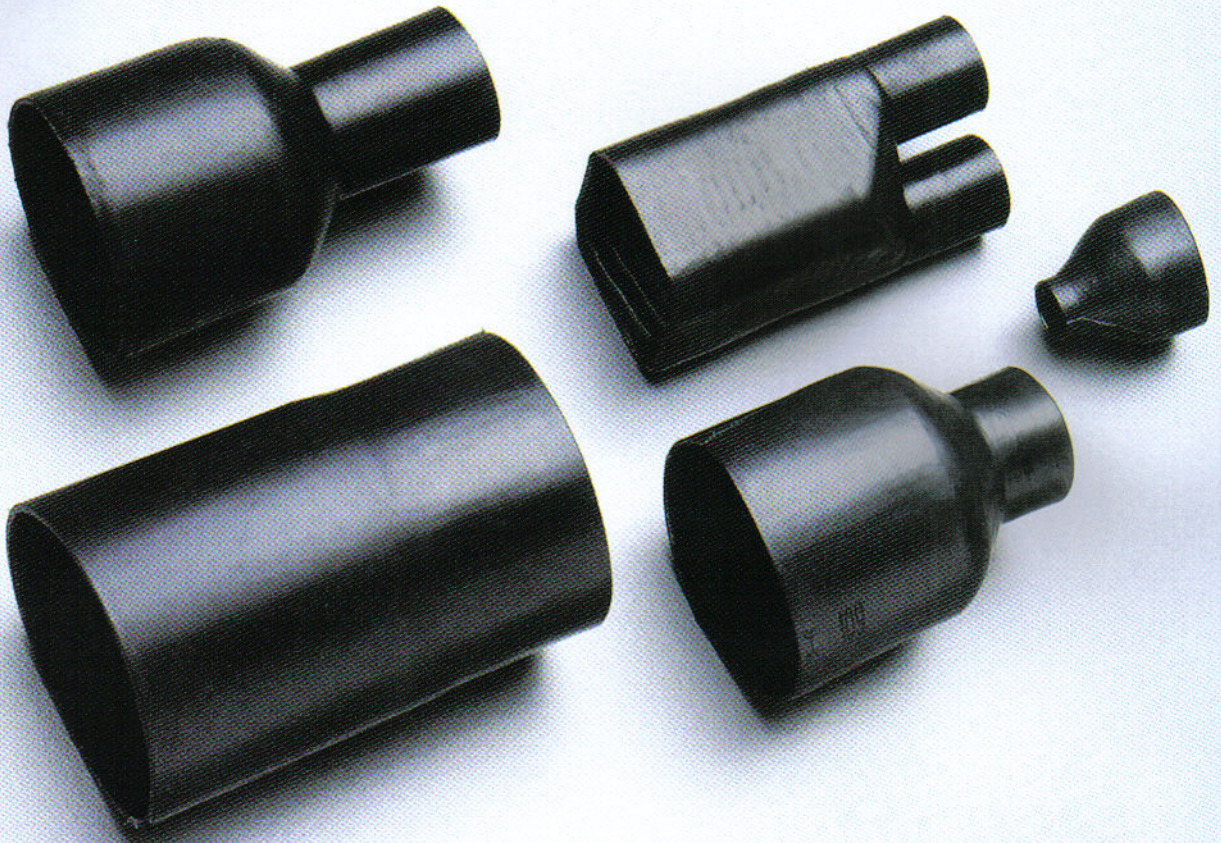
Dielectric strength	11KV/mm
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Chemical properties

Water absorption	0.1% (24h at 25°C)
Corrosion	Non-corrosive
Flammability	Self-extinguishing (tubing only)

PRODUCT CODE REF.	Body diameter (mm)		Cable entry diam. (mm)		Anode diam.	Anode head diam.
	Supplied min.	Recov'd max.	Supplied min.	Recov'd max.		
NAC86	86.0	45.0	18.0	6.5	51(2")	76(3")
NAC112	112.0	60.0	18.0	6.5	76(3")	102(4")

These anode cap sizes cover cable sizes 4mm² to 25mm² (6.5mm to 12mm dia.)



NXM 11 & 12 Series are a range of shaped mouldings, manufactured in a polyolefin heatshrinkable plastic, and are lined internally with a hot melt adhesive.

They are ideal for connector/cable protection and offer an effective environmental seal. They have also been found to be excellent in preventing moisture ingress when used on transducers.

The double outlet NXM 12 is particularly useful in harness work.

Standard colour

Physical properties

Shrink ratio	Typically 2:1
Material	Cross-linked polyolefin with hot melt adhesive lining
Flexibility	Semi rigid
Colour	Black
Tensile strength	12.0N/mm ²
Ultimate elongation	400% min. (NXM12/1 200% min.)
Relative density	1.0 max. (NXM12/1 1.4 max.)

Thermal properties

Operating temperature range	-40°C to +80°C
Shrinkage temperature	>135°C
Storage stability	Very good

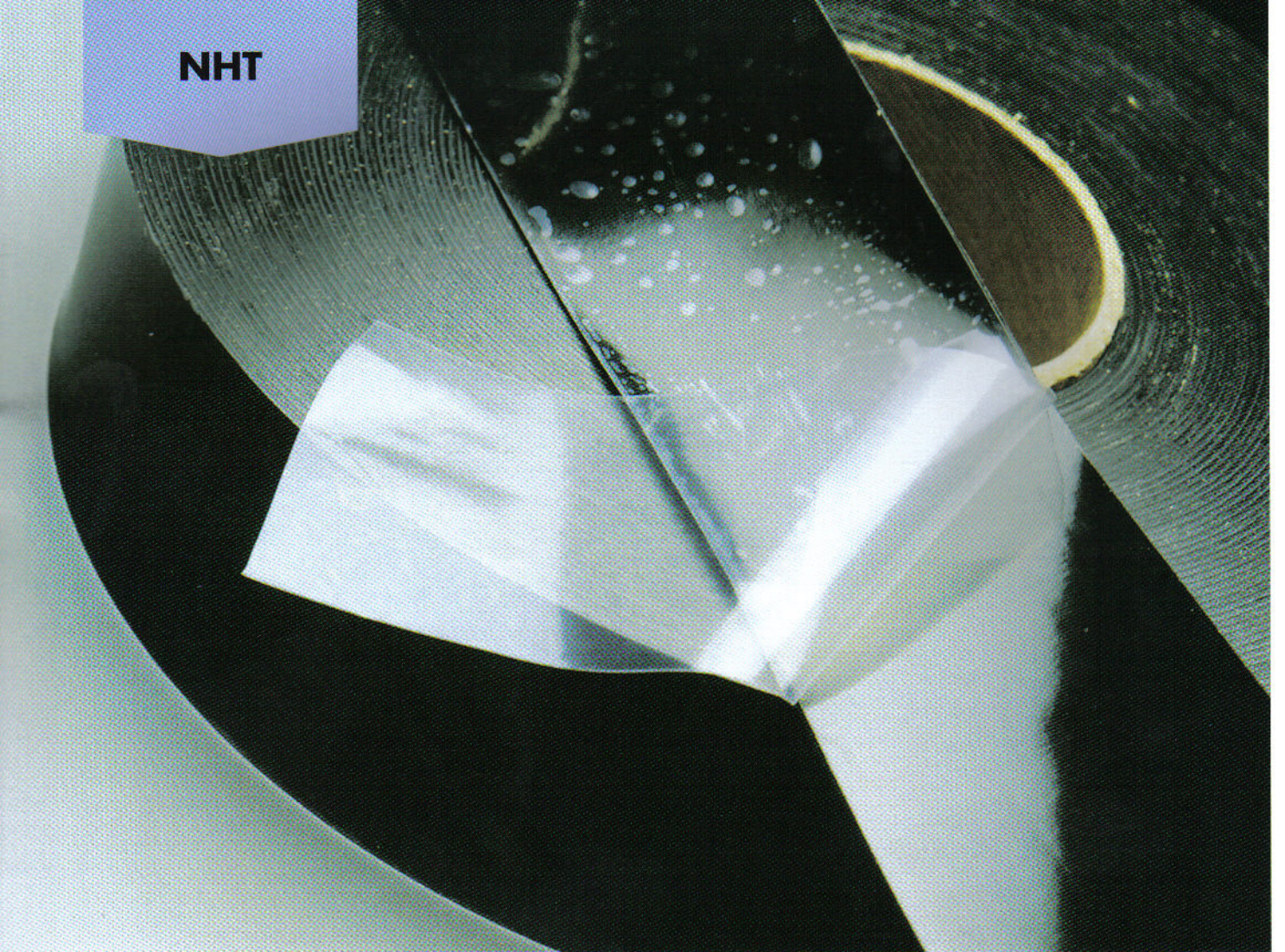
Electrical properties

Dielectric strength	10KV/mm
NXM12/1	5KV/mm

Chemical properties

Water absorption	0.5% (24h at 25°C)
NXM12/1	0.2% (24h at 25°C)
Flammability	Self-extinguishing (tubing only)

PRODUCT CODE REF.	Main Body Shell diam. (mm)		Outlet diam. (mm)	
	Supplied min.	Recov'd max.	Supplied min.	Recov'd max.
NXM11/1	21.6	7.9	5.8	2.0
NXM11/2D	27.9	10.4	7.9	3.1
NXM11/2	38.1	14.2	11.7	4.1
NXM11/3	42.7	28.2	42.7	9.9
NXM11/4	50.8	17.8	17.0	5.6
NXM11/5	40.0	24.0	20.0	6.0
NXM12/1	28.0	9.0	12.0	4.1



NHT is a heatshrinkable cross linked polyolefin tape coated on one side with a hot melt sealant. It has innumerable applications and will provide a flexible and durable environmental seal, useful as a temporary low cost repair to PVC or polyolefin jacketed cables where immediate replacement is either inconvenient or expensive.

Standard colour

Physical properties

Shrink ratio	1.1:1
Material	Adhesive lined polyolefin
Flexibility	Very flexible
Colour	Black
Tensile strength	17.5N/mm ²
Ultimate elongation	600% min.
Adhesion peel strength	2.2kg/cm (to galvanised steel)
Minimum longitudinal shrinkage	10%
Thickness of backing	0.45mm
Total thickness	1.05mm

Thermal properties

Operating temperature range	-18°C to +55°C
Shrinkage temperature	>125°C

Electrical properties

Dielectric strength	26KV/mm
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Chemical properties

Flammability	Not flame retarded
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PRODUCT CODE REF.	Nominal tape width (mm)	Nominal roll length (metres)
NHT37	37.0	25.0
NHT50	50.0	25.0
NHT75	75.0	25.0
NHT100	100.0	25.0

Method of application

The appropriate length of tape is cut from a roll, wrapped snugly around the substrate, ensuring a continued overlap around the circumference equivalent approximately to the width of the tape, eg 50mm wide tape overlaps by a further 50mm after the join. It is useful to hold the loose end in place with a small holding tab, then removing the thin protective film, before heat is applied to the tape. As sufficient heat is applied, from the holding tab area first, the tape will be seen to shrink tightly, forcing the melted adhesive to flow into surface contours and to the edges of the tape. Allow ample time for cooling before handing.

If the tape should need to be removed, apply heat until the adhesive melts (approx. 120°C).

NMA

NMA is a versatile hot melt adhesive liner, which provides an independent means of adhesive application, useful for encapsulating and bonding a substrate to a covering sleeving. It has an operating temperature range of -30°C to $+80^{\circ}\text{C}$ and a softening temperature $95\pm 5^{\circ}\text{C}$ and is designed for use with most heatshrink sleeveings.

Method of application

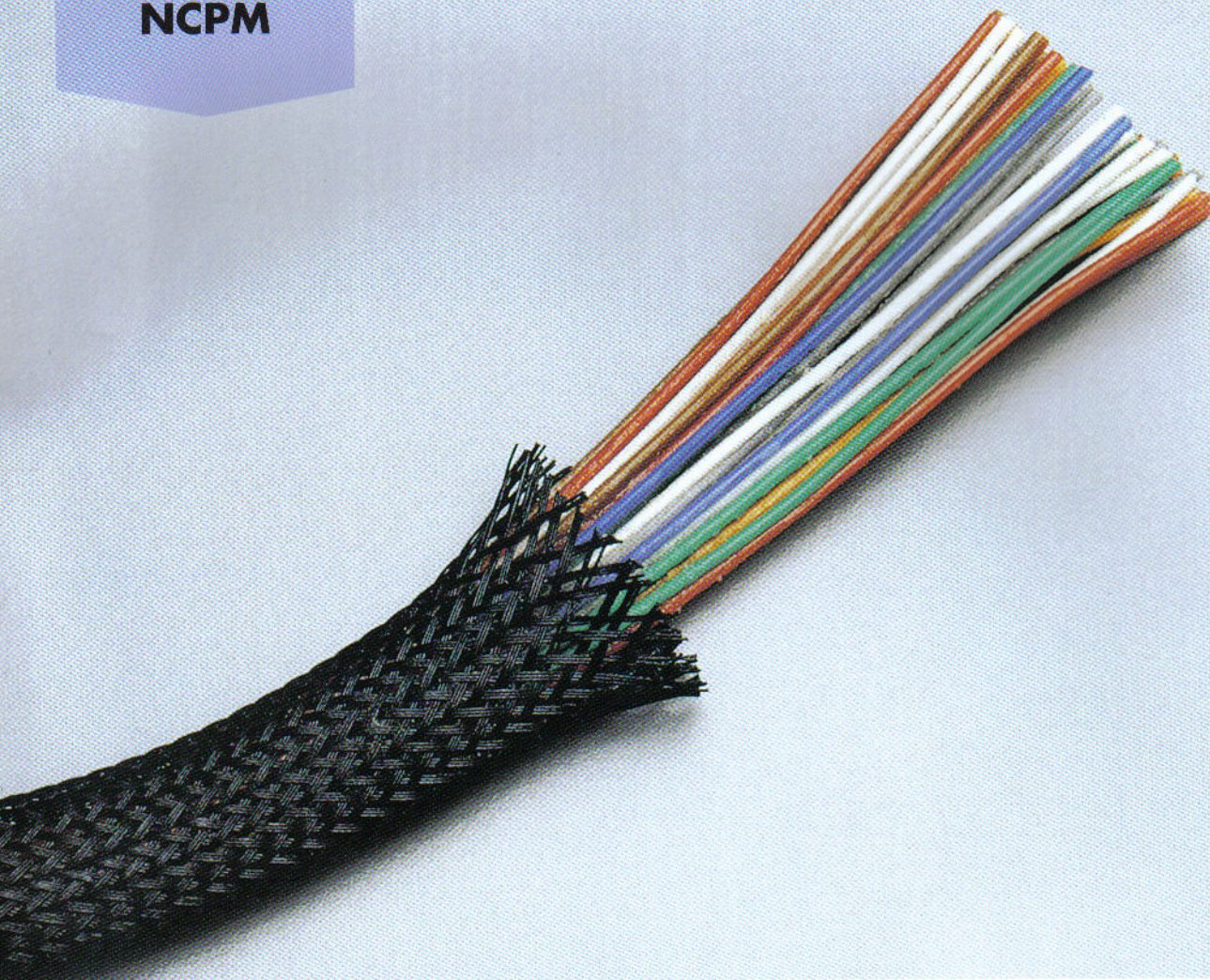
The substrate should first be gently heated and the tape immediately applied under slight tension, allowing only a small overlap of the edges covering the length of substrate as required. The sleeving cover is then located over the tape and shrunk in the normal manner.

PRODUCT CODE REF.	Nominal tape width (mm)	Nominal roll length (mtrs)
NMA	25.0	50.0

CUTTING & PRINTING



NESS is able to save you both time and money by cutting your heatshrink sleeving to the exact size you require. Furthermore, we can print the sleeving to your specification – including your personalised artwork such as company logo. Cut sleeves can be made from just about any type of heatshrink and is an effective and permanent method of identifying wires, cables and components or giving simple printed instructions.



NCPM is an expandable braid cable jacket, manufactured in monofilament polyester. Formulated to add mechanical protection for groups of cables, it is easily fitted by pushing back the jacket over cable bundles. On compression, NCPM diameter expands over the bundles and retracts to hold the cables neatly in place. The braiding material is resistant to attack from most solvents, heat up to 150°C and is self-extinguishing.

Standard colours



Physical properties

Expansion ratio	up to 3:1
Material	Monofilament polyester
Flexibility	Very flexible
Colours	Black, Grey
Resistance to abrasion	Very good

Thermal properties

Operating temperature range	-50°C to +150°C
Maximum peaking temperature	+220°C

Chemical properties

Flammability	Self-extinguishing
Moisture attack	Resistant
Fungus attack	Resistant
Solvent attack	Resistant to most solvents

PRODUCT CODE REF.	Nominal size range (mm)	Nominal roll length (mtrs)
NCPM4	2 – 7	100.0
NCPM5	3 – 9	100.0
NCPM10	7 – 15	100.0
NCPM15	10 – 20	50.0
NCPM20	14 – 26	25.0
NCPM25	18 – 34	25.0
NCPM30	20 – 40	25.0
NCPM40	30 – 50	25.0
NCPM50	40 – 66	25.0



The NHG 1500 industrial heat gun is a quiet, easy to handle tool, suitable for production line use. Supplied with an integral safety guard and fitted 13 amp plug (220/240 V model) as standard.

Also available to order as options are a 110 V model, as well as a multi-directional adjustable stand, and a variety of interchangeable nozzles for increased control of heat application.

Specification

Voltage	220/240 V ac. 50 cycle. (110 V model also available)
Output	1400 watts (1100 watts and 800 watts also available)
Temperature	500°C
Motor speed	9500 rpm
Insulation	Class M
Air velocity	Approx. 2000ft/min
Weight	Approx 1.5kg

Optional and replacement spares

Adjustable stand
Fintail nozzle
Reducer nozzle
Deflector nozzle
Replacement heating elements

PRODUCT CODE REF.

NHG 1500

For further information about Ness Heatshrink products please contact:
The Sales Office, CPL Ness Heatshrink, Cwm Works, Llantwit Fardre, Pontypridd, Mid Glamorgan CF38 2PT.
Tel: 01443 215740. Fax: 01443 215742 E-mail: ness@cplindustries.co.uk



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